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EXAMINER	
DAO, THUY CHAN	

  

ART UNIT	PAPER NUMBER
2192	

  

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/043,792

Applicant(s)

BEARDSLEY ET AL. MN

Examiner

Thuy Dao

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-5,7-13,15,48-53 and 55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-5,7-13,15,48-53 and 55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on October 24, 2007 has been entered.

2. Claims 2-5, 7-13, 15, 48-53, and 55 have been examined.

### **Response to Amendments**

3. Per Applicants' request, claims 5, 48, 51, and 53 have been amended; and claims 6 and 54 have been canceled.

4. The objection to drawings is withdrawn in view of Applicants' amendments.

5. The objection to the specification is withdrawn in view of Applicants' amendments.

6. The objection to claims 5, 48, 51, and 53 is withdrawn in view of Applicants' amendments.

### **Response to Arguments**

7. Applicants' arguments have been considered but are moot in view of the new ground(s) of rejection.

### **Claim Rejections – 35 USC § 101**

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 2-5, 7-13, 15, and 48 are rejected because the claimed invention is directed to non-statutory subject matter. Independent claim 48 directs to "...a computer test system ... comprising: a first computer program module configured to: ...".

They amount to Functional Descriptive Material: "Data Structures" representing descriptive material per se or "Computer Programs" representing computer listings per se.

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions. See MPEP 2106.

Dependent claims 2-5, 7-13, and 15 do not cure the deficiencies as noted above, thus, also amount to Functional Descriptive Material: "Data Structures" representing descriptive material per se or "Computer Programs" representing computer listings per se.

Under the principles of compact prosecution, claims 2-5, 7-13, 15, and 48 have been examined as the Examiner anticipates the claims will be amended to obviate these 35 USC § 101 issues. For example (proposal only), - -In a networked computing environment, a computer test system embodied in a computer storage medium for testing software ... - - as disclosed in the specification, page 9, lines 4-21.

### **Claim Rejections – 35 USC § 103**

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2-5, 7-13, 15, 48-53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avvari (art of record, US Patent No. 7,114,159) in view of Silva (art of record, US Patent No. 6,163,805) and further in view of US Patent No. 6,002,871 to Duggan et al. (art made of record, hereinafter "Duggan").

#### **Claim 48:**

Avvari discloses a method and *a networked computing environment, a computer test system embodied in a computer storage medium for testing software on one or more of a plurality of platforms and with one or more of a plurality of languages (e.g., FIG. 2, col.9: 53 – col.11: 23), the computer test system comprising:*

*a first computer program module configured to:*

(a) *receive test conditions defining tests on developed computer program products (e.g., FIG. 3, col.11: 61 – col.12: 62; FIG. 4, col.13: 1-52);*

(b) *receive group information, the group information defining a selected platform and language for each of one or more groups (e.g., FIG. 6, col.14: 32 – col.15: 49; FIG. 10, blocks 302-306, col.17: 50 – col.18: 32);*

*(c) store the test conditions and group information as a test packet in a database, the test packet defining one or more tasks to be performed for a particular group (e.g., FIG. 1, col.6: 21-67; FIG. 2, col.9: 53 – col.11: 60);*

*a second computer program module configured to:*

*(d) search for an available test client that is available to perform a test job including tasks for a particular group defined in the test packet, wherein searching an available test clients comprises searching according to loading capacity (e.g., FIG. 10, blocks 306-308, col.17: 50 – col.18: 32; FIG. 11, blocks 402-414, col.18: 34-66);*

*(e) select a test packet from the database (e.g., FIG. 10, blocks 306-310), wherein selecting a test packet from the database further comprises:*

*first determining if any pending test packets can be selected for the available test client such that a pending test packet can be run on the available test client without reimaging the available test client (e.g., FIG. 11, blocks 408-420, col.19: 1-29), and*

*if a pending test packet can be selected for the available test client such that the test packet can be run on the available test client without reimaging the available test client (e.g., FIG. 12, col.19: 33 – col.20: 32),*

*selecting the test packet for the available test client and automatically assigning a test job with tasks from the selected test packet to the available test client (e.g., FIG. 13, col.21: 1 – col.22: 47).*

Avvari discloses a look up service to match the set of attributes associated with the test suite (e.g., FIG. 11, block 412-414) but does not explicitly disclose *if a pending test packet cannot be selected for the available test client such that the pending test packet can be run on the available test client without reimaging, then determining if a pending test packet can be selected for the available test client such that the pending test packet can be run on the available test client with reimaging, and if the pending test packet can be run on the available test client with reimaging then selecting the test packet for the available test client and automatically assigning a test job with tasks from the selected test packet to the available test client.*

However, in an analogous art, Silva further discloses:

*if a pending test packet cannot be selected for the available test client such that the pending test packet can be run on the available test client without reimaging (e.g., FIG. 3, block 42, "Does OS need to be changed? YES"), then*

*determining if a pending test packet can be selected for the available test client such that the pending test packet can be run on the available test client with reimaging, and if the pending test packet can be run on the available test client with reimaging then selecting the test packet for the available test client and automatically assigning a test job with tasks from the selected test packet to the available test client (e.g., FIG. 3, blocks 43-44-45, "Installer installs OS on test machine", i.e., reimaging the available test client; and blocks 46-47, launching and executing Job Packet, col.10: 56 – col.11: 16).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Silva's teaching into Avvary's teaching. One would have been motivated to do so to be able to reconfigure the environment variables as the boot ROM and/or install a new operating system in case the highest priority job does not have any test client having the required environment variables and/or operating system as suggested by Silva (e.g., col.3: 49 – col.4: 10; col.10: 50-55).

Neither Avvari nor Silva explicitly discloses *calculate an execution time for the test job and if the calculated execution time exceeds a predetermined allowable execution time prevent the test job from being executed and automatically assign a different test job to the available test client.*

However, in an analogous art, Duggan further discloses *calculate an execution time for the test job and if the calculated execution time exceeds a predetermined allowable execution time prevent the test job from being executed and automatically assign a different test job to the available test client (e.g., col.24: 10-37; col.25: 20-36; col.26: 59 – col.27:5).*

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Duggan's teaching into Avvary and Silva's teaching.

One would have been motivated to do so to provide enhanced verification of proper execution of the application program under test by modifying/controlling test parameters such as rates, number of tests executing concurrently, and the duration of a given test run as suggested by Duggan (e.g., col.2: 32-57; col.3: 65 - co.4: 6).

**Claim 2:**

The rejection of claim 48 is incorporated. Avvari also discloses *the second computer program module comprises a management component that is configured to separate one of the test jobs into subtasks, and to order the subtasks into a reordered job, wherein reordering is performed based on subtask dependencies on the loading or installing of a particular application, reordering being performed to make processing of subtasks more efficient* (e.g., FIG. 12, blocks 506-512, col.19: 33 – col.20: 32).

**Claim 3:**

The rejection of claim 2 is incorporated. Avvari also discloses *the management component is configured to separate a plurality of the test jobs into subtasks, and to order the subtasks of the plurality of test jobs into a reordered job* (e.g., col.18: 1-33).

**Claim 4:**

The rejection of claim 3 is incorporated. Avvari also discloses *the management component is configured to add a subtask corresponding to a computing environment* (e.g., Table 5, col.27).

**Claim 5:**

The rejection of claim 48 is incorporated. Avvari also discloses *a test component configured to create a personalized test packet for the available test client based upon the platform and applications available at the available test client* (e.g., FIG. 10, blocks 302-306, col.17: 50 – col.18: 32).

**Claim 7:**



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The rejection of claim 48 is incorporated. Avvari also discloses *a database component configured to store the test jobs* (e.g., FIG. 1, col.6: 21-67).

**Claim 8:**

The rejection of claim 7 is incorporated. Avvari also discloses *the database is configured to store a particular test job in a pending status prior to the particular test job being assigned to an available test client* (e.g., FIG. 2, col.9: 53 – col.11: 60).

**Claim 9:**

The rejection of claim 7 is incorporated. Avvari also discloses *the database is configured to store a particular test job in an assigned status while the particular test job is assigned to an available test client* (e.g., col.6: 21-67).

**Claim 10:**

The rejection of claim 7 is incorporated. Avvari also discloses *the database is configured to store a particular test job in a completed status after the particular test job has been run by one of the test clients* (e.g., col.9: 53 – col.11: 60).

**Claim 11:**

The rejection of claim 48 is incorporated. Avvari also discloses *a message queue for the available test client that is associated with the second computer program module, the message queue for storing information about test jobs that have been assigned to a test client* (e.g., FIG. 9, col.17: 32-49).

**Claim 12:**

The rejection of claim 48 is incorporated. Avvari also discloses *a high-level interface that permits direct access between the second computer program module and at least one test client* (e.g., FIG. 7-9, col.16: 1 – col.17: 49).

**Claim 13:**

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The rejection of claim 12 is incorporated. Avvari also discloses *a thin client that is configured for communicating between the high-level interface and the at least one test client, the thin client being configured to translate information from a test client to information that may be utilized by the high-level interface* (e.g., FIG. 3, col.11: 61 – col.12: 62).

**Claim 15:**

The rejection of claim 48 is incorporated. Avvari also discloses *the second computer program module assigns the available test client based upon the present imaging of the available test client* (e.g., FIG. 9, col.17: 32-49).

**Claim 49:**

The rejection of claim 48 is incorporated. Avvari also discloses *the computer test system further comprises a plurality of test machines* (e.g., FIG. 1-2, col.9: 1- col.11: 23).

**Claim 50:**

The rejection of claim 49 is incorporated. Avvari also discloses *at least one of the test machines is located remote from the first and second computer program modules* (e.g., FIG. 3, col.11: 61 – col.12: 62).

**Claims 51-53 and 55:**

Claims 51-53 and 55 recite the same limitations as those of claims 48, 2, 5, and 15, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claims, they also teach all of the limitations of claims 51-53 and 55.

**Conclusion**

12. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570,

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respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T. Dao



TUAN DAM  
SUPERVISORY PATENT EXAMINER